Mohr, Ashley

From: Mohr, Ashley
Sent: Friday, August 09, 2013 4:03 PM
To: hutchings@adeq.state.ar.us
Cc: Chang, Allen; Snyder, Erik; Robinson, Jeffrey
Subject: EPA Comments on Draft Permit (Air Quality Analysis Related Comments) - Big River Steel LLC (Permit No. 2305-AOP-R0)

Shawn,

Please find below EPA Region 6's additional comments on the Draft Permit for Big River Steel (Permit No. 2305-AOP-R0). These comments are in addition to those previously provided to ADEQ on the draft permit by Allen Chang.

We have reviewed Draft Operating Air Permit for the proposed Big River Steel, LLC steel mill to be located in Osceola, Arkansas, which we received in our office on June 26, 2013. Based on our preliminary review, we have identified the following concerns related to the air quality analysis conducted in support of the permit application for the proposed facility:

$PM_{2.5}$ Modeling Analysis

1. $PM_{2.5}$ SMC Usage – On January 22, 2013, the U.S. Court of Appeals for the District of Columbia Circuit vacated the SMC for $PM_{2.5}$ (*Sierra Club v. EPA*, No. 10-1413 (D.C. Circuit), 2013 WL 216018). Due to that court decision, the EPA will not rely, and advises permitting authorities with SIP-approved PSD programs not to rely on SMCs for $PM_{2.5}$ to exempt permit applicants from compiling preconstruction monitoring data. It appears that the applicant did rely upon the $PM_{2.5}$ SMC as part of their demonstration to exempt the facility from the PSD preconstruction monitoring requirements. While we advise against relying on the $PM_{2.5}$ SMC, EPA believes that PSD applicants may continue to meet the preconstruction monitoring requirements by using data from existing monitors that are determined to be representative of background conditions in the affected area. Therefore, we suggest that the applicant's air quality analysis and the permit record be updated to remove the reliance upon the $PM_{2.5}$ SMC, and instead, provide a demonstration to show that existing monitoring data is representative of background conditions. If a representative monitor cannot be identified, the applicant would need to provide preconstruction monitoring data.

2. $PM_{2.5}$ SIL Usage – On January 22, 2013, the U.S. Court of Appeals for the District of Columbia Circuit vacated two provisions in the EPA's PSD regulations containing SILs for $PM_{2.5}$ (*Sierra Club v. EPA*, No. 10-1413 (D.C. Circuit), 2013 WL 216018). The court decision does not preclude the use of SILs for $PM_{2.5}$, and EPA believes that permitting authorities may continue to apply SILs for $PM_{2.5}$ to support a PSD permitting decision. However, permitting authorities should take care to ensure that SILs are not used in a manner that is inconsistent with the requirements of the Clean Air Act (CAA). The air quality analysis completed in support of the Big River Steel PSD permit references the $PM_{2.5}$ SILs. We suggest that the permit record be updated to clearly document that the use of the $PM_{2.5}$ SILs for this project are appropriate and consistent with the CAA. The Draft Guidance for $PM_{2.5}$ Permit Modeling released on March 4, 2013, provides preliminary guidance on how to use the SILs for $PM_{2.5}$ in a manner consistent with the CAA.

3. Secondary $PM_{2.5}$ Formation – Based on our review of the applicant's air quality analysis and the draft permit, it does not appear that the secondary formation of $PM_{2.5}$ was considered or addressed in the $PM_{2.5}$ NAAQS or PSD Increment analyses. Instead these analyses only considered the impacts from direct $PM_{2.5}$ emissions. Because the proposed Big River Steel facility emits $PM_{2.5}$ precursors at levels that exceed the corresponding Significant Emission Rates, the PSD Increment and NAAQS demonstrations should account for secondary formation of $PM_{2.5}$. The Draft Guidance for $PM_{2.5}$ Permit Modeling released on March 4, 2013, provides preliminary guidance on how to account for secondary $PM_{2.5}$ in the air quality analysis. The $PM_{2.5}$ Increment and NAAQS analyses should be updated to address secondary $PM_{2.5}$ formation to demonstrate compliance with the associated $PM_{2.5}$ standards. We note that the facility has an increase in NO_X and SO_2 of approximately 1,500 tpy and this increase would be expected to result in some additional $PM_{2.5}$ impacts resulting from secondary formation that should be addressed in the air quality analysis.

PM_{10} Modeling Analysis

4. PM_{10} Increment Contribution Analysis – Both the applicant's air quality impacts analysis and the draft permit indicate that there are modeled exceedances of the PM_{10} Increment. Both documents also indicate that the contribution from the proposed Big River Steel facility to these modeled exceedances is less than the associated SIL. We could not locate a contribution analysis to support this statement in the applicant's air quality analysis report. The contribution analysis should be made available as part of the permit record to support the PM_{10} PSD Increment compliance demonstration. Please update the permit record to include the PM_{10} Increment contribution analysis. If this information is already included in the permit record, please indicate its location and otherwise disregard this comment.

NO_2 Modeling Analysis

5. Tier 2 Background Concentration – The applicant's air quality impacts analysis and the draft permit indicate that a Tier 2 background concentration was used in the 1-hour NO_2 NAAQS modeling analysis. It is unclear from the description of the analysis how the Tier 2 background concentration and the modeled impacts were combined. Please provide a more detailed description of the approach used to determine the background concentration(s) that were combined with the modeled impacts as part of the NO_2 1-hour NAAQS analysis.

Ozone Analysis

6. Ozone Impacts Analysis – Based on our review of the applicant's air quality impacts analysis, we do not believe that the ozone impacts analysis clearly demonstrates that the proposed Big River Steel facility will not cause or contribute to an exceedance of the ozone NAAQS. The applicant relied upon a conversion factor to estimate the magnitude of ozone formation expected from the proposed facility's emissions increases of NOx and VOC. This conversion factor was taken from a regional ozone study from the state of Wisconsin. Ozone formation is an unique process dependent on location and airshed and is not uniform across the U.S. or even within the same region of the country. The applicant's analysis did not provide any information or documentation to support why this regional study conversion factor from Wisconsin was appropriate for use to determine potential impacts from the proposed Big River Steel facility. While not contained in the permit record we have obtained some of the Wisconsin modeling information. We have reviewed the Wisconsin analysis and think it

underestimates the impacts and is not valid for assessing ozone impacts for this proposed facility in Arkansas. We do not agree with the Wisconsin estimated impacts based on our experience of modeling single sources in photochemical models and do not consider the information accurate for any Region 6 area. Ozone formation is highly dependent on the atmospheric conditions of a particular area, emissions locally and regionally, etc.

In conclusion, we do not believe that the approach used by the applicant is appropriate, nor does it demonstrate that the emissions from the proposed facility will not cause or contribute to an exceedance of the ozone NAAQS. The applicant should provide a revised ozone impacts analysis, which should be included in the permit record. We note that Arkansas has previously been involved in ozone modeling for the Memphis area and has utilized photochemical modeling to assess impacts of a potential source in West Memphis on ozone levels in the Memphis area. Some of this modeling was previously included in Economic Development Zone modeling. This modeling seems like it would be for the same general airshed and did include future year modeling that could be used for estimating the potential ozone impacts from this facility. We think the Wisconsin based analysis should be removed since it is not appropriate. We would be glad to discuss these issues further to aid in addressing our comments, including further discussions regarding the utilization of the referenced Economic Development Zone modeling.

If you have any questions regarding these comments or would like to set up a time to discuss them further, please contact me.

Thanks,

Ashley

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Ashley N.Q. Mohr
Environmental Scientist
Air Permits Section (6PD-R)
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, TX 75202
(214) 665-7289
FAX (214) 665-6762
mohr.ashley@epa.gov